WEEDS TREES & TURF

SEPTEMBER 1975

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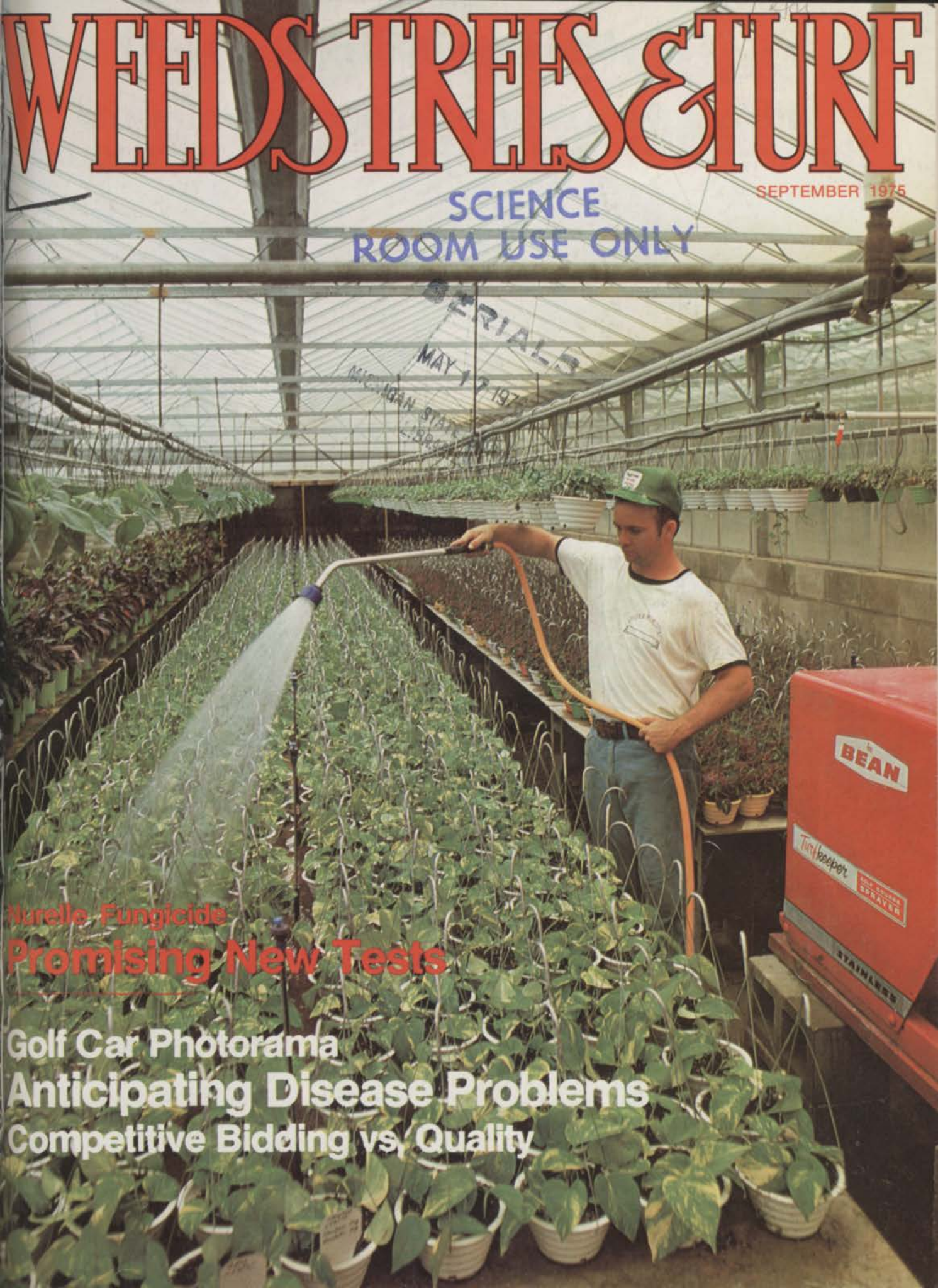

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WTT-9

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WEEDS TREES & TURF®

September 1975, Vol. 14, No. 9

11 Anticipate Disease Problems — Golf director of the Wheeling West Virginia Park Commission, Ed Murphy, oversees all golf related activities at Olgleby Parks. Murphy's philosophy on maintaining disease and weed-free courses is to anticipate the problem before it arrives.

12 International Society of Aboriculture: The Second Fifty Years — International Shade Tree Conference met for the last time August 10-14, 1975. Here's a report on what happened and a look at the new era of the International Society of Aboriculture.

14 Golf Vehicle Photorama A picture story featuring some of the available cars and carts. These handy vehicles play an important role around the golf course as well as large industrial turf areas.

26 Commercial Sod Industry — American Sod Producers met recently in the Kansas City area. WEEDS TREES AND TURF was there to cover meeting highlights as well as the sod farm tours and field demonstrations.

28 Good 'n' Cheap — In a competitive bidding situation where the price is driven lower and lower, a point is reached when the product is no longer a bargain. Elmer Mott, Mott Corp., dedicates this article to purchasing agents everywhere.

38 Search for a Super Fungicide — The amount of testing and research necessary to register a product with EPA is staggering. Dow Chemical Co., reports on the tests and successes of a new fungicide, Nurelle.

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THE COVER — In greenhouse tests, Dow's new fungicide has been effective when used as a drench and a foliar spray. Here a greenhouse worker applies the chemical to plants innoculated with disease organisms.

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Editorial

Committees can get a job done. We are impressed with the shade tree evaluation committee of the International Society of Arboriculture (formerly the International Shade Tree Conference). This committee of L. C. Chadwick, chairman, Spencer Davis, Jr., Ray Gustin, Jr., Frederick Micha and Val Curtis represent the National Arborists Association, the American Association of Nurserymen, and the American Society of Consulting Arborists as well as the ISA.

Their goal is to establish the professional arborist as the accepted authority for property losses concerning trees and other specimen plants. A secondary goal is to increase the maximum homeowner loss from $250 to $500 for any individual specimen.

The current situation whereby loss of a tree can be claimed as a casualty loss on an income tax form only if a real estate appraiser determines that the real property is worth less after loss of a tree than prior to the tree loss is ridiculous. In many instances, the loss of a valuable ornamental tree may truly not affect the value of the real estate were it offered for sale. Furthermore, all real estate appraisers may not be competent in determining the value of a single tree — though their knowledge of real estate worth may be unquestioned.

We believe as does the committee and their sponsoring organizations, that professional arborists should determine the dollar loss, and that the Internal Revenue Service should accept their appraisal of loss.

Also, tree losses which a homeowner may claim via his homeowner policy are even more restrictive. Not only is the $250 figure maximum, but the policy does not cover value of the tree loss as such, nor its final removal from the property — it includes only that segment which may be abutting or damaging an insured building on the property. Payment is made only to get the tree off the insured structure. In the insurance area, the committee has worked effectively in getting a new section written for the homeowners' policy. It is now in effect for a maximum payment of $500 per tree on a trial basis in six states.

Besides working with the insurance interests and the IRS, the shade tree evalua-

(continued on page 41)

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Government News·Business

Peter Loft, president of Lofts Pedigreed Seed, Inc., announces the opening of Loft/New York, 4294 Albany St., Albany, New York. Loft/New York will serve the professional and retail trade of the tri-city area with Lofts line of bulk and packaged seed and lawn care products. The new office will also be the packaging headquarters for Lofts new introduction into the retail flower and vegetable small package seed market.

Vaughan Seed Company has become a dealer for Terra Tack, an erosion control binder for hay, straw, and wood fiber mulch. Vaughan, a division of Vaughan/Jacklin Corp., will be stocking Terra Tack from their Bound Brook, New Jersey, Landover, Maryland and Downers Grove, Illinois (home office) divisions.

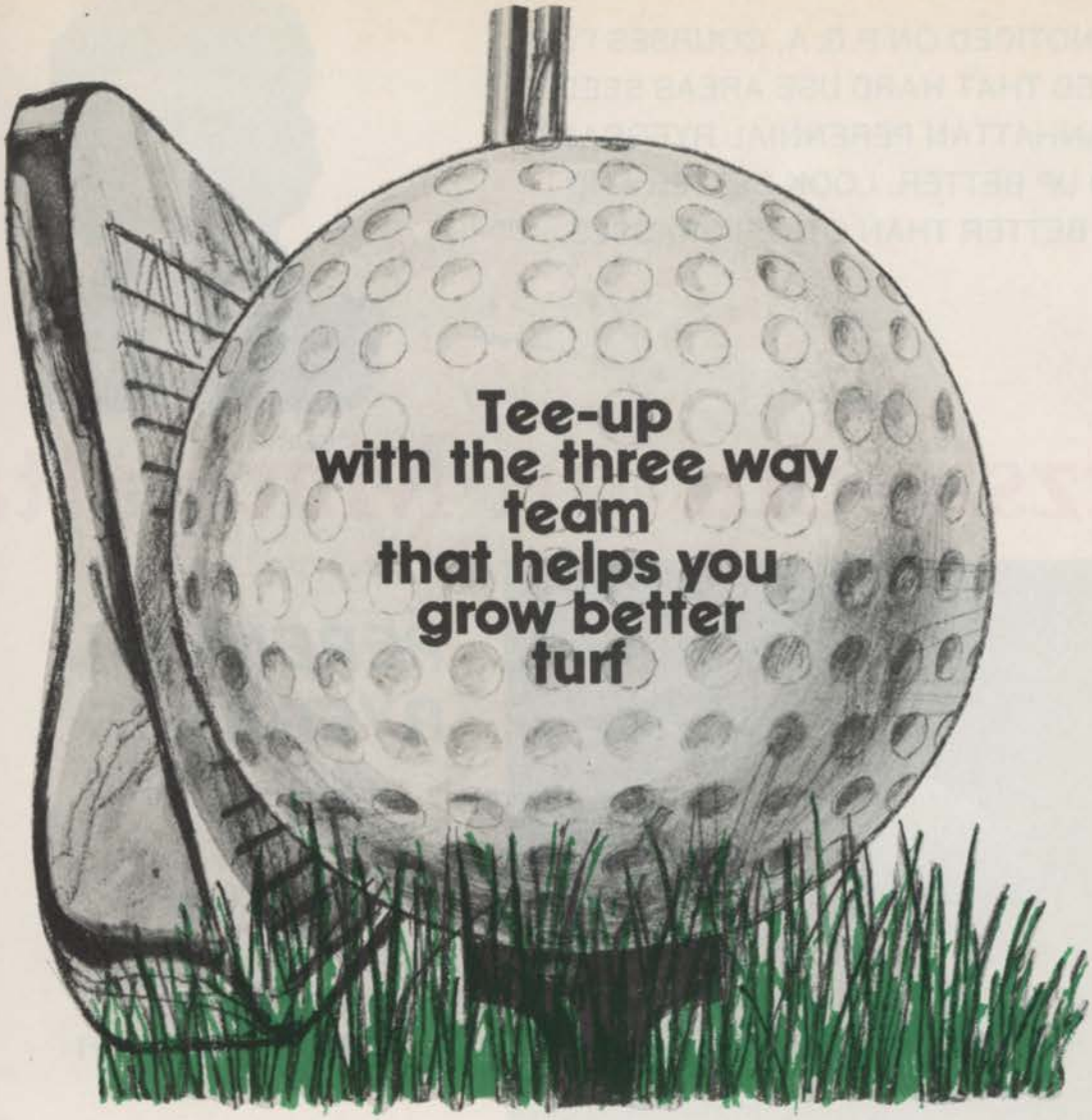
Metasystox-R Inject-A-Cide Applicators recently received EPA registration for use on seven species of trees to control eleven insect pests. This means that Inject-A-Cide can now be shipped to any of the fifty states as the J.J. Mauget registration is completed in each state.

USDA has informed Velsicol Chemical Corp. that it has intervened in the public hearing of EPA's "notice of intent" to suspend chlordane and heptachlor. USDA will produce some 20 witnesses submitting evidence on the safety, benefit and need for these pesticides, according to Robert M. Morris, president of Velsicol. Included among the witnesses will be agricultural experts, entomologists, and toxicologists who will present data in support of continuing registration for chlordane and heptachlor.

"Our major concern is...that the facts concerning EPA's allegations of 'imminent cancer risks' be scrutinized by unbiased scientists," said Morris. "The emotional scare response to the word 'cancer' cannot be permitted to cloud scientific inquiry and to impede sound scientific judgement of the issue."

EPA recently notified producers, formulators, distributors and registrants of pesticides that applications for supplemental registration by distributors postmarked on or after August 4, 1975 must be sumitted on the new EPA Form 8570-5. The Agency says that: (a.) One form must be submitted for each distributor and (b.) The distributor involved must sign the form. It will not, however, be necessary for those distributors with previously accepted registrations to re-apply on the new form.

Carl Reed Gerber has been named Associate Assistant Administrator EPA's Office of Research and Development. In his new post, Gerber will share responsibility with Wilson Talley for the planning, programming, policy implementation, management, direction, and control of technical and administrative aspects of the Research and Development program.



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Patrick C. Fitzsimons

Fitzsimons on CERTIFIED Manhattan

Pat Fitzsimons, in winning the Glen Campbell Los Angeles Open at Riviera CC, Calif., Feb. 20-23, set a new course record of 64 for a single round and tied Ben Hogan's record for this event. Fitz, above, tees off on the No. 1 Manhattan tee at Salem Golf Club course, Salem, Ore., where he previously tied the world record score of 58 on a 6,000 yard course.

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Anticipate Disease Problems

IT'S common knowledge among those who enjoy the game of golf, that you don't drive near putting greens with electric golf cars, you don't set your club-laden bag on the closely clipped turf, nor do you use any golf club on the greens except the putter. If you spend your leisure time trying to conquer that sport at Oglebay Parks relatively young Speidel Golf Course, the same rules hold for the tees; except you are not limited to just the putter. The tees at Speidel are identical to the greens, and both receive the same care and attention as part of golf director Ed Murphy's disease and weed control preventive program.

"I have a young course," explained Murphy, "and want to keep it as disease and weed-free as possible. I must anticipate problems."

"It costs extra money for the two or three additional sprayings, but I don't have any blemishes on my trees, greens or fairways except for the ball marks and divots people fail to repair," he added.

As golf director for the Wheeling, West Virginia Park Commission, Murphy oversees all golf-related activities taking place on the par-3 course, and the Crispin Golf Center (another 18-hole course) in addition to his role as superintendent of the Speidel course. His disease and weed control programs have already registered results with Speidel's first LPGA event — the Wheeling Classic played last July.

"My observation on being a good superintendent," Murphy says, "is to get the most out of my men and equipment. I constantly supervise and take a real personal interest in the grass."

The Robert Trent Jones designed course has quite a variety of grasses. The greens and tees on the public course are all Penncross and are kept clipped at 3/16" to 5/32" for general use.

Baron, Fylking and Pennstar cover the automatically irrigated fairways. The perennial rye grasses, Pennfine and Manhattan, were added after a USGA suggestion because they are excellent for wear under the heavy traffic conditions found at most tournaments.

"I'm trying to develop first class fairways," the superintendent explains, "to go along with the nice tees and greens we have here."

"That's why it's so important to have a good disease and weed control program, because there are really three seasons of weeds that occur during the regular golfing season. First, we get common crab in the early spring, during mid-summer it pops up again, and then in the late fall Poa annua hits us. With the extra couple sprayings of pre-emergence herbicides, we keep the level of material at an effective rate for best control."

The fertilizers, herbicides and fungicides he uses for his turf maintenance program are as varied as the type grass seed found on the turf itself. The fertilizer, herbicide, and fungicide applications all go hand in hand, but because of the fertilizer program and the excellent pH count, Murphy's weed population is kept at a minimum.

The first three years the course was in operation, soil tests were taken annually and a count of seven was always the result. In fact, fairways 6, 7, 8, are constructed right over limestone. Magnesium and calcium counts were also excessive according to Murphy.

Therefore, he uses a low phosphate grade of fertilizer on the greens and applies it every two weeks. Iron is added during the Fall and Spring, and occasionally throughout the rest of the season. "The reason we fertilize so often," he says, "is because our green construction is 75 percent sand and 25 percent peat, so they're very porous."

Greens and tees are kept healthy with a number of fungicide and insecticide combinations. Daconil 2787®, Dyrene, Tersan 1991, Dexon, and Diazinon and certain combinations of these fungicides, all contribute to the fine condition of the turf. "I always try fungicide combinations in my nursery before I apply it to the turf," explains Murphy. "One combination I really like is Daconil 2787 and Tersan 1991. I've found Diamond Shamrock's Daconil 2787 compatible with almost anything. It's also a liquid so I have no problems with nozzles clogging up and slowing down my spraying. I just follow the label instructions."

With the weed population on the fairways at a minimum the superintendent has found that regular applications of Dacthal® pre-emergent herbicide beginning the first week of May, have contributed significantly in eliminating common crab, goosegrass, and have a large effect in reducing the Poa annua infestation in the late fall.

"If you're going to develop a first class course, you must be willing to spend the extra few dollars for additional sprayings to keep the material at an effective level," he emphasized, "you can't hope to 'get by' any other way. That's the key to a good preventive program."

As the 17-year biology teacher and coach, turned golf director indicated, "to be a good superintendent, you must take a real personal interest in the grass." Judging from his complete disease and weed prevention program, Speidel's Ed Murphy obviously does, and is the reason Oglebay Parks newest course is rapidly developing into one of the best in the area. □

International Society of Arboriculture

The Second Fifty Years

AN ERA ended when the gavel changed hands and Jack R. Rogers became the first president of the International Society of Arboriculture. For 51 years they've been known as the International Shade Tree Conference (ISTC). But with expanded interest developing in all areas of urban forestry, landscaping, horticulture and tree research and development, the present membership feels the new title would better describe the membership and better define the function of their organization.

Rogers, superintendent of street trees, City of Los Angeles, California, received his commission from John Z. Duling, past president, Duling Tree Expert Co., Muncie, Indiana, in a ceremony following the annual banquet.

John C. McGuire, Chief of the U.S. Forest Service, opened the meeting with the keynote address saying there are four major environmental hazards; air and water pollution, soil erosion and destruction of natural flora and fauna. "As our population increases, urban forestry has much to offer as a solution to these problems," he said. "More needs to be done by the ISA to coordinate all governing bodies to cooperate in solving these natural hazards."

"One recent study shows that nature has become so foreign to urban children that they are actually afraid of forests. It's time to bring the forests to the city. Trees help reduce pollution and noise, beautify, harmonize more with nature and screen unsightly but necessary structures," McGuire said.

Americans express strong desires for trees. Arbor Day for example, indicates the extent of popularity of urban forestry. "The Forest Service is presently lacking funds for urban forestry programs. But new bills will be introduced to the President for approval of Congress to renew urban forestry programs," the chief added. "A National program is needed to make cities a more healthy place for people to live."

With so many urban problems using trees as a solution, the proper selection of trees is necessary to insure that the tree will live and grow. And reporting on solutions to this problems was Alex Shigo, U.S. Forest Service, Durham, New Hampshire. "The number one problem with trees is wounds and wound diseases. All trees have some wounds and it all depends on how a particular tree 'handles' a wound that determines whether it survives," Shigo said. The European wound concept states; first the wound, decay fungi moves in, and then decay. According to Shigo, this concept has not been big enough the past ten years ot encompass all aspects of the wound and tree's reaction.

McGuire: "One recent study shows that nature has become so foreign to urban children that they are actually afraid of forests. It's time to bring the forests to the city."

"This concept has withstood the test for years, but a new concept would have to include the individualism of trees. Some trees are strong reactors and some are rather weak," Shigo said. "The decay portion includes a succession of organisms that move in patterns, not randomly."

"Our entire concept of a tree can no longer be a textbook definition," he said. "Each tree is constructed of compartments bounded by growth rings, rays and chemical barriers. The cambium tissue that has been injured, changes its mode of operation and changes to react to injurious or negative organisms." "The most important concept to remember is that each tree be considered an individual," Shigo added.

Other reported research dealt with tree stress from salts and herbicides. Elton Smith, Ohio State University, Columbus, Ohio, again reinforced that trees react differently to similar stimulus. Smith pointed out that the white pine is one of the most susceptible trees to aerial-borne salt sprays lifted off the streets by passing motorists. "Anti-dessicants applied twice a year keep the incidence of damage to a minimum on most species of trees," Smith pointed out. "There are, however, some salt-resistant species."

Smith also reported on the incidence of damage caused by herbicide use near trees. He described the leaf cupping effect caused by dicamba herbicide and damages resulting from increased use of paraquat. "A ring of activated charcoal placed around the base of the tree can reduce the effect of herbicides," he said.

Alex Shigo, in another one of his many presentations during the educational portion of the ISTC meeting, captivated an audience for a one-and-a-half hour session entitled "New Ideas in Tree Care." "There's a great difference in the ability of trees to heal after wounding," he said. "One indication of whether a wound dressing will work, is the ability of that particular tree to heal."

Shigo described some of his recent work with micro-organisms in an attempt to keep out decay fungus. One method included placing trichoderma, an aggressive decay micro-organism, in a fresh wound and wrapping it with polyethelene

(continued on page 21)

There were 39 commercial exhibitors and 18 field demonstrators at this year's conference. A first-time exhibitor at the ISTC convention is Strong Mfg. of Remus, Michigan.

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INTERNATIONAL HARVESTER

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GOLF VEHICLE PHOTORAMA

CAPRI-100, from Southern Golf Equipment in North Carolina, is an electric car with rear body latch and cushioned brake to prevent turf damage.

PEOPLE OR TOOLS, up to a 1,000-pound capacity can be transported in this Jacobsen Cruiser 2 truck. It's powered by a 8 HP engine and can move 12½ mph.

MINNESOTA-based American Continental makes both gas and electric three-wheel golf cars. Length for both models is 91 inches, while the width is 47½. Construction: fiberglass body and steel frame.

WORKMASTER from Toro has a closed, self-lubricating drive system. It has a 1,000-lb. payload.

WESTINGHOUSE makes a three-wheel electric that weighs 965 pounds and a four-wheel that weighs 1,030 pounds.

RUNABOUT from Cushman has automotive steering, rear shock absorbers and an 18-hp air-cooled engine.

X-440 from E-Z-GO is a steel frame, steel body gas car which weighs 730 pounds.

THIS IS the Brute-Car from Lake Sports, weighing only 340 pounds with fuel. It has a fiberglass body, steel frame and is 88 inches long.

Servis machines are built with one simple idea in mind.

If you're familiar with the name, Servis, you know that we've been manufacturing rotary mowers, cutters and shredders, box scrapers, landscape rakes and rear-mounted blades for a long time. Since 1946 to be exact.

Interestingly enough, some of the first equipment we put in the field is still being used today. That's dependability.

And that kind of dependability is no accident. Servis equipment is designed to do specific jobs. And to do them better than anything else. It's also designed to last.

Take construction. Servis frameworks are unibody constructed to provide extra frame strength. And the high-stress areas are reinforced with heavy gauge tubing.

To be the best.

In addition, all of our rotary cutters feature safety devices to protect the tractor and cutter drive trains.

The gears and gear box shafts used on our machines are precision machined to increase strength and durability, and reduce noise.

And Servis is one of the few lines of equipment that offers you an option of blade carriers on rotary cutters. The Cyclone (dish-pan type) for cutting up to 3" brush. And the Gyro ("A" frame type) for cutting heavy 4" brush.

Of course, this is only part of our story. The point is that Servis builds a complete line of equipment with one simple idea in mind. To be the best.

So whether you've got 4" brush to cut, stalks to shred, ditches to dig, soil to move or land to level, see your Servis dealer. He's got the equipment you need.

For more information about the Servis line, contact your nearest authorized Servis dealer, or write: Austin Products, Inc., Dept. 2-75 S, P.O. Box 1590, Dallas, Texas 75221.

SERVIS

We build equipment the way we do because you wouldn't settle for less.

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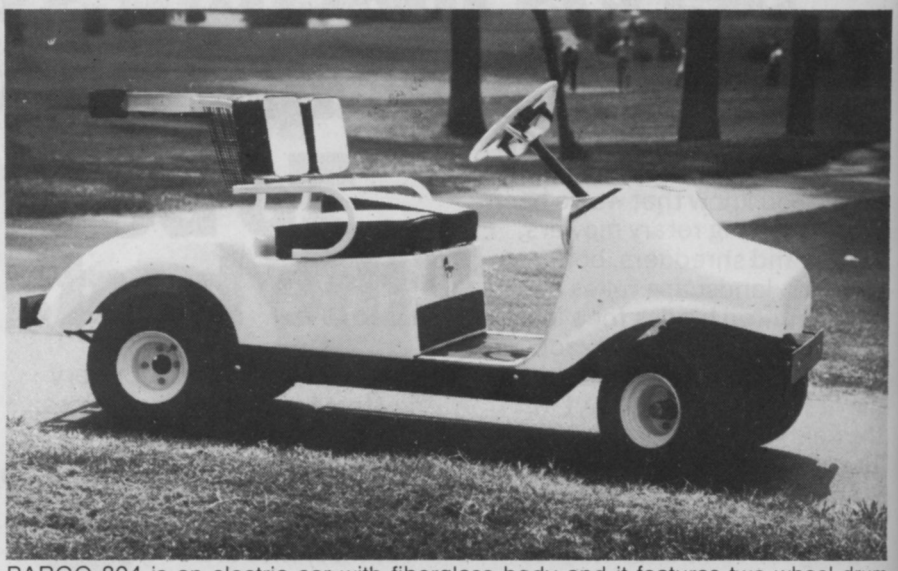
CLUB CAR from Johns-Manville has a year warranty on parts and labor. It is capable of 14 mph.



PARGO 804 is an electric car with fiberglass body and it features two wheel drum brakes, spike guard, rub rails and seat brake.

PANTHER, a personnel/burden vehicle from Electric Carrier Corp., is an electric vehicle with a 44" x 36" cargo space. It has automotive steering, disc brakes, automatic parking brake and can be equipped with extra-wide flotation tires.

THIS IS the GT-7 Truck from E-Z-GO, re-introduced this year. It's powered by a 20 hp ONAN and has a rated payload of 1,500 pounds.

BAHAMA BAR CAR from Pargo even has a cutting board for slicing fruit with a waste bend below.

KUSH-N-KART weighs only 283 pounds, and is an electric 3-wheel cart with a spring suspension design. It's made by a firm in Barberton, Ohio.

SYDSPORT

When you talk about KENTUCKY BLUEGRASS, you're really talking about a combination of several important characteristics.

Density. Vigorous Growth. Rhizome and tiller development. Hardiness.

At E. F. Burlingham & Sons, we know.

Because we've spent the last 70 years experimenting and developing higher quality grass seeds for your use.*

The results speak for themselves.

Not long ago, we introduced a hardy Swedish Kentucky Bluegrass to the United States. Its name: Sydsport.

One of the outstanding characteristics of this variety was its dense, rapid spreading root system. In this case, the roots were primarily responsible for the important winter hardiness, disease and drought-resistant characteristics which mark this Swedish import.

As a result, Sydsport has more than earned the reputation of being "the first grass to green and the last green to go."

Sydsport from E. F. Burlingham & Sons.

Just one of the many reasons why... when you talk about SYDSPORT, you talk about Burlingham.

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* Bonnieblue, Majestic, Sydsport and Birka Kentucky Bluegrasses and Koket Chewings Fescue.

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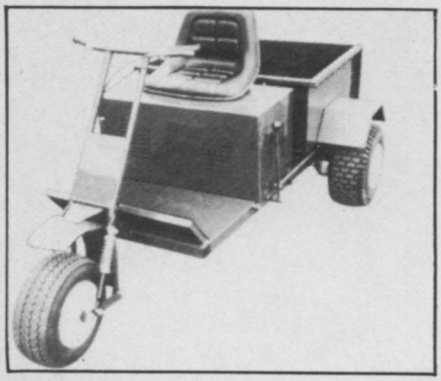


HMC's Jobmaster utility vehicle has a body made of 16 gage steel electrically welded. Options include a reverse transmission, dump bed and larger turf tires.

QUARTER HOURSE is a new utility vehicle from Promark with a counter-balanced dump bed which holds 500 lbs.

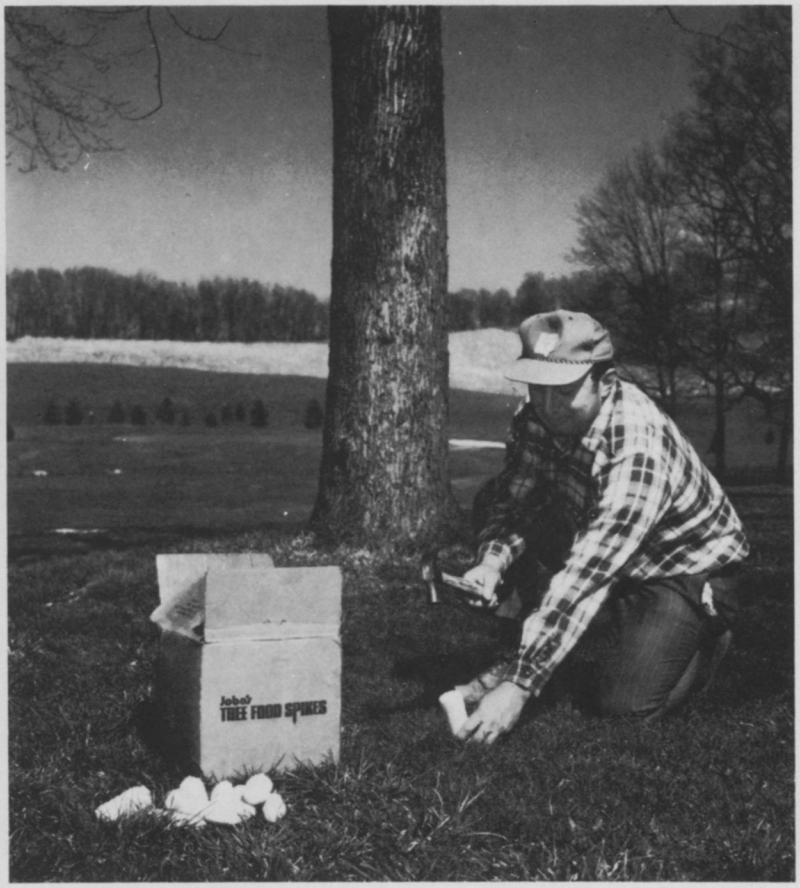
AMF Harley-Davidson's new DE-40, the firm says, can handle a 750-lb. payload at speeds up to 11 mph. An added feature are front beverage wells.

TAYLOR-DUNN's electric car is all steel and features an automative drive axle and leaf spring suspension. It weighs 1,065 pounds with battery.

(Photorama continues on page 30)

As a professional, you know

FALL IS THE BEST TIME OF ALL TO FEED A TREE... with JOBE'S TREE FOOD SPIKES



William Kobel, Superintendent, Union Country Club, Dover — New Philadelphia, Ohio

Autumn is tree feeding time. Because you are a professional, you know that Jobe's Tree Food Spikes hammered into the ground over the roots of trees will help overcome weaknesses brought about by summer heat, lack of moisture, ravages of insects, battering of winds.

Jobe's Tree Food Spikes will stimulate new root growth right up until the ground is frozen solid. As the root system develops this fall, it gives trees as well as shrubs the stamina to survive winds, rain, sleet, freeze and thaws of winter. Feeding this fall also gives the tree an earlier start next spring since a reservoir of plant food is provided.

Fertilize the trees you're responsible for with Jobe's Tree Food Spikes. Call your local jobber or distributor or order direct: 5 cases @ $30 per case, 15 cases @ $25 per case, freight prepaid.

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Jobe's®
TREE FOOD SPIKES
MAKES TREE FEEDING EASIER

For More Details Circle (117) on Reply Card

For ad on following page circle 152 on free information card

This lightweight can really cut it.

Here's a genuine lightweight chain saw that supplies the muscle professionals need. Get a grip on the Skil lightweight, and clear that underbrush, fell 32" trees, and cut logs into a winter's worth of firewood. Skil can handle it.

Take a look at the features. It's the powerful lightweight you've been looking for. It's from Skil.

SKIL®

1612 Chain Saw. The powerful lightweight.

ARBORICULTURE *(from page 12)*

plastic. New testing is also being developed using a crown gall organism to increase the speed of closure of a wound.

"When treating wounds, the most important element is the entire tree and not just the wound," he stated. "Everything possible must be done to increase the vigor of the tree and that includes fertilizing, pruning and watering."

Shigo: "When treating wounds, the most important element is the entire tree and not just the wound."

Another Shigo idea is not such a new idea. It took him and several associates eight years to develop. Called the Shigometer, the instrument operates on the premise that as micro-organisms digest cell walls, certain predictable changes usually occur. Moisture and mineral concentrations change in decaying wood, creating a significant difference in the reaction to a pulsed current, when compared to healthy tissue. A pulsed current emitted by a probe inserted into the tree passes through the tissues. The reflected current is picked up and shows the profile of micro-elements in the tree.

The unit can also be used to monitor the vigor of a tree or detect the strongest portion of the tree. By using the meter on a group of trees, an objective feel can be obtained by recording reaction of obvious vigorous trees and obvious runts as the extremes.

Attendance figures dropped to 714, the lowest since the 1969 meeting. Next year's meeting will be sponsored by the Midwest Chapter and headquartered in the downtown St. Louis area.

New officers for the upcoming year include: Jack R. Rogers, president, Hyland R. Johns, president-elect, Asplundh Tree Expert Co., Yvon Fournier, vice president, Laurentide Nursery, Trois Rivers, Quebec, E. B. Himelick, executive director, Illinois Natural History Survey, Dan Neely, editor, Urbana, Illinois and E. C. Bundy, executive secretary, Urbana, Illinois. □

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J20

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If your job calls for trenching, it makes sense to look to the people who have the most experience in the industry: Ditch Witch. Ditch Witch built the world's first service-line trencher more than 25 years ago and today offers the most complete range of trenching equipment available. The Ditch Witch Trencher Series is designed strictly for trenching. It includes two compact handlebar units and two four-wheel-drive models — the 18-HP J20 and 30-HP V30. If you require larger equipment, outfit one of the four Modularmatic vehicles as a trencher. The power range is from 30-HP to 100-HP. From 7-HP compact to 100-HP main-line equipment, Ditch Witch has the right machine for your trenching job. That's why today, more than ever, Ditch Witch makes sense.

Ditch Witch . . . equipment from 7 - to 195-HP.

"Ask the man you see wearing this emblem how Ditch Witch Makes $ense for *you*!"

DITCH WITCH ®

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"Train Stops Manufacture of Chlordane, Heptachlor"

Citing an imminent human cancer hazard, EPA Administrator Russell E. Train ordered an end to the manufacture of the pesticides heptachlor and chlordane for most household and agricultural uses.

Heptachlor and chlordane are now in widespread use for home, lawn and garden pest control. Their major agricultural use is on corn crops. The decision would allow continued production for termite control by ground insertion and the dipping of roots and tops of non-food plants.

Train said that since his cancellation notice on November 18, 1974, which questioned the safety of heptachlor and chlordane and set in motion extensive public hearings on the issue, new evidence has been received "which confirms and heightens the human cancer hazard posed by these pesticides."

"I have found that these compounds cause cancer in laboratory animals and that laboratory tests are reliable indications of the human cancer hazard," Train said. "In Addition, although any single component of human exposure — such as intake through poultry — may not appear to be significant, it alone poses a cancer hazard to certain of the more susceptible individuals and together with the several other components of human exposure presents a serious human cancer threat. This threat is made even more alarming by evidence that human exposure begins in the mother's womb and continues without interruption throughout life. In addition, because these chemicals are ubiquitous, the major sources of human exposure are largely unavoidable by individual action."

Velsicol Asks for Temporary Restraining Order

The Environmental Protection Agency's actions following its July 30 announcement of its "intention to suspend certain uses of chlordane and heptachlor insecticides," is illegal, it is charged in a suit filed August 5 by Velsicol Chemical Corporation.

The Chicago-based manufacturer of the two insecticides filed suit against the EPA in the Federal Court in Memphis, and have also filed a formal request with the EPA in Washington for a public hearing, as required under the notice of intent to suspend.

In its suit, the firm charges that EPA representatives are telling formulators,retailers and users that any and all products produced, formulated and packaged after July 29, 1975, cannot be sold and used after completion of the hearing. The suit charges this action by the EPA is "improper and unwarranted," and asks the courts for a temporary restraining order, which will restrict any further action by the EPA until a ruling may be made on the propriety of the agency's notice of intent to suspend. Concurrently, Velsicol will seek a "declaratory judgment," holding the notice of intent to suspend as invalid.

The Environmental Protection Agency originally initiated action against these insecticides in November, 1974, when it issued a notice of intent to cancel certain registered uses of the two products, according to Robert M. Morris, Velsicol's President and Chairman of the Board. Velsicol and many other registrants contested such notice and requested a cancellation hearing.

"There are hundreds of uses and hundreds of registrants involved in these cancellation proceedings," Morris explained. "The issues are complex and highly technical, deserving the appropriate scrutiny of a hearing. However," he charges, "in announcing its intent to suspend the products, the EPA is denying Velsicol Chemical Corporation a proper forum to establish the safety of these products by speeding up the hearings and allowing the company only a five-day period to request a public hearing, which, in turn, is limited to a maximum of 50 days."

"EPA has alleged 'imminent hazard,' it has alleged 'unreasonable risk,' and it has alleged 'cancerous tumors'," declared Morris, "yet the agency has opposed our request to have a Scientific Ad-

(continued on page 24)

EPA Wording Misleading, Says Morris

Chlordane and heptachlor have not been banned by the Environmental Protection Agency as has been reported in news stories based on the EPA's news release announcing its "notice of intent" to suspend.

Robert M. Morris, president and chairman of the board of Velsicol Chemical Corporation, manufacturer of the two pesticides, pointed out that the action taken by the EPA was simply a notice of intent which would have become effective within five days of its announcement unless there was a request for a public hearing.

"This request has been made," Morris stated, "therefore, the notice of intent to suspend is of absolutely no significance until after the public hearing and final resolution by the federal courts, if that is necessary."

The erroneous report that the two pesticides were banned was based on the EPA's news release announcing the "notice of intent" to suspend. The headline and lead paragraph of the news release stated that EPA Adminstrator Russel E. Train stopped the manufacture of chlordane and heptachlor, but did not explain until page 2 that the action taken by the agency was a "notice of intent" to suspend.

Velsicol has been deluged with telephone calls and telegrams from throughout the world as a result of news stories which had repeated the misleading language of the EPA news release.

Meeting Dates

Transworld Home Horticulture Exhibit, International Amphitheatre, Chicago, Ill., Sept. 21-24.

Outdoor Pest Services Clinic, sponsored by the National Pest Control Association, Inc., Kansas City, Kan., Sept. 26-27.

National Agricultural Chemicals Association, 42nd annual meeting, Greenbrier, White Sulpher Springs, West Virginia, Sept. 28-Oct. 1.

International Taxus Symposium, Ohio Agricultural Research and Development Center, Wooster, Ohio, Oct. 1.

Society of Municipal Arborists, 11th annual meeting, Hartford, Conn. Oct. 1-3.

Rocky Mountain Turfgrass Equipment and Products Show, Adams County Regional Park, Oct. 2.

Hort-I-Scope, International Short Course, Curtis Hixon Hall, Tampa, Fla., Oct. 2-4.

National Bark Producers Assoc.,Inc., Key Biscayne Hotel, Key Biscayne, Fla., Oct. 2-5.

Florida Nursery and Allied Trades Show, Curtis Hixon Hall, Tampa, Fla., Oct. 3-5.

Central Illinois Golf Course Superintendent Equipment Show, Illinois State University Golf Course, Normal, Ill., Oct. 6.

First Trade and Appreciation Show, Terminal Sales Corp., Michigan Inn, Southfield, Mich., Oct. 9-10.

Florida Turfgrass Conference and Show, Sheraton Towers, Orlando, Fla., Oct. 12-16.

Kentucky Turfgrass Council Conference and Field Day, Barren River State Resort Park, Lucas, Ky., Oct. 14-15.

Southern California Turfgrass Council, 15th annual turfgrass equipment and materials exposition, Orange County Fairgrounds, Costa Mesa, Calif., Oct. 22-23.

26th Central Plains Turfgrass Conference, Manhattan, Kan., Oct. 22-24.

Wisconsin Golf Turf Symposium, 10th annual, Pfister Hotel, Milwaukee, Wis., Oct. 29-30.

Sprinkler Irrigation Association, annual convention, Camelback Inn, Scotsdale, Ariz., Nov. 2-4.

National Insititute on Park and Grounds Maintenance, 5th annual educational conference, Chase Park Plaza Hotel, St. Louis, Mo., Nov. 3-6.

Better Trees for Metropolitan Landscape, U.S. National Arboretum, Washington, D.C., Nov. 4-6

Wisconsin Park and Recreation Association, annual conference, Scotsland Hotel and Resort, Oconomowoc, Wis., Nov. 5-7.

Midwest Grass Conference, Vladimir's Hall, Farmington Hills, Mich., Nov., 10-11.

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Toro® Groundsmaster 72 high-capacity trimming rotary mower.

Reason to buy #2

Full complement of quick-change implements. Snow blower. Leaf mulcher. V-plow. Hard surface broom. ROPS. Cab with ROPS. Works year 'round to save money.

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Air brooms come in two versions—with wheels or with shoulder straps. Wheels look comfy and modern, all right. But for blowing leaves out of flower beds, rock gardens or from under shrubs, for cleaning staircases, roofs, seat rows in arenas and convention centers, up ladders or down ships' holds, in trucks and rolling stock, or for blowing snow off a car dealer's merchandise on a cold Saturday morning—SOLO's ultra-mobile lightweight knapsack blowers have no wheeled competition. The SOLOs go where wheels don't.

410B 3 HP

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We offer two models, of 3 hp/35 cc. and 5 hp/70 cc., with special dust filters, comfortably padded adjustable shoulder straps and with a history of well-nigh 1,000,000 sales to back them up.

JETPAK 425

Your air broom clients are also interested in a good commercial herbicide sprayer. Our JETPACK-425 handles the most exotic weed and brush killers (plus wallpaper removers, concrete curing compounds, whitewash, swimming pool chemicals etc.) and won't quit. It's the only all-plastic sprayer on the market. No metal or rubber parts inside—thus, no swelling, shrinking, dissolving, leaking or corrosion. We guarantee that.

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visory Committee evaluate the data. We have once again requested an evaluation. As yet, EPA still opposes submitting the question of the safety of these products to a truly unbiased, scientific panel for determination of the facts, and by its notice of intent to suspend, attempts to block this legal option.

"We can interpret this only to mean that the EPA is afraid to have a complete, unbiased scientific review. Velsicol has no such fear. Our testing shows that chlordane and heptachlor have been used for more than 25 years with no evidence of cancer, or, when used properly, any other danger to man. Both products are safe and vital to the agricultural and pest control industries," Morris stated.

When asked to explain the agency's motive in serving notice of intent to suspend, and in opposing the firm's request for a scientific review, Morris termed the action as "an attempt to accomplish by bureaucratic harrassment and illegal threats what cannot be accomplished by following the legal requirements of the cancellation hearings.

"Velsicol's sales of chlordane and heptachlor for the challenged uses were approximately $14 million in 1974 — a relatively minor amount when compared to total sales of $1.1 billion for its parent company, Northwest Industries, Inc., or to the $167.8 million sales of the company's chemical group, of which Velsicol is a part," explained Morris. "But what we are concerned with is the loss of these valuable products to the total agricultural and pest control markets."

Gypsy Moth Infestation Discovered in Illinois

A small infestation of gypsy moths has been found in southwest Cook County, Ill., reports the U.S. Department of Agriculture (USDA).

"This is the first time the pest has been found in any numbers in Illinois," James O. Lee, deputy administrator of USDA's Animal and Plant Health Inspection Service (APHIS) said. "It marks the westernmost location in the country where an infestation has been detected."

The moth has been moving steadily south and west out of New England defoliating forested areas since it first entered this country in 1869. In recent years, its spread has accelerated with the pest moving on cars, trucks, campers, and other vehicles. Currently, there is a light infestation in central Michigan with other midwestern and southern states reporting occasional finds — most likely due to a "hitchhiking" gypsy moth.

So far, the Illinois infestation is located in Palos Park and a few blocks in Palos Heights — residential suburbs of Chicago. APHIS reports the trapping of 189 adult, male moths to date at that site.

Experimental Compound Gets Temporary Nod From EPA

Thompson-Hayward Chemical Company has announced they have received a temporary permit from the EPA for experimental use of DIMILIN™ chitin inhibitor for control of gypsy moth and spruce budworm.

The chemical is presently being

Mission bags it!

NITROFORM*
organic nitrogen

The long-lasting economical nitrogen that pampers turf with slow, sustained nourishment. Best choice for nursery stock.

STH74-168

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used in the northeast United States on gypsy moth and in Maine, Washington and Wisconsin on spruce budworm.

Dimilin (formerly TH 6040) is a substituted phenylurea compound discovered in the laboratories of Philips-Duphar B.V. in the Netherlands. A chitin inhibitor, it is one of a new group of compounds displaying a new mode of action. It is the first of this new group to receive temporary permit for use on forest insects.

Abbott Joins Davey Tree Leaves Post At Ohio Power

Richard E. Abbott has joined The Davey Tree Expert Company as Vice President — Corporate Development, according to an announcement made today by Joseph T. Myers, President.

In his new position, Mr. Abbott will be in charge of research and development for all Davey Tree services and will be the staff consultant for utility operations.

Prior to joining Davey, Mr. Abbott had served as Right-of-Way Maintenance Supervisor with Ohio Power Company in Canton, Ohio, since April, 1965. Before that, he had been an arborist for Central Hudson Gas & Electric Corporation in Poughkeepsie, New York.

A past president of the International Shade Tree Conference, he has served as chairman for numerous arborist committees and institutions and is active in many other professional organizations.

Mr. Abbott is widely known as the editor of The Utility Arborist Association Newsletter and co-chairman of the American National Standards Institute Z133 Committee on Safety Standards.

He has authored articles in numerous publications, including Arborists News: Weeds Trees and Turf; Northeastern Weed Science Society Proceedings; Electrical World; Transmission and Distribution; and Electric Light & Power.

A native of Whitman, Mass., he graduated from Stockbridge School of Agriculture, University of Massachusetts, in 1952 with a major in ornamental horticulture. The following year he completed a special one-year course in arboriculture at that university.

Richard E. Abbott

Applying engineering designs which "Sound Conditioned"* our industrial scrap reduction machinery, Mitts & Merrill can modify our brush chippers for low noise levels. At the same time, those engineering features which have made Mitts & Merrill the leader for years have been retained.

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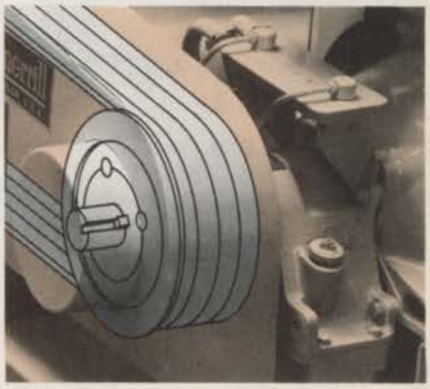
Staggered knife pattern, for years a Mitts & Merrill feature, has always resulted in a lower noise level. First, by segmenting the noise source. Second, through smoother cutting action. Third, by producing smaller chips.



Optional torque converters and the heaviest steel cylinder — even without an external flywheel — combine to give positive cutting action under the most rugged conditions. Isolates the engine from shock. Minimizes maintenance.

Plus • **Positive safety-lock pin** for greater operator safety • **Swing-away, folding feed chute** protects cutting chamber; allows instant access and increases maneuverability • **Heavy duty construction** includes coil spring, torsion-type suspension, and box tubular steel frame.

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Dept. WTT 54, 109 McCoskry St., Saginaw, Michigan 48601

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American Sod Producers Visit Midwest Farms

CULTIVATED sod growers visited producers in the Kansas City area this year for their American Sod Producers Association annual convention. They saw sod being produced during some adverse dry weather along with many different types of demonstrations tied to management.

Most unique was the Weeks Sod and Walnut Farm where sod is grown between rows of trees in the Briggs walnut orchard which is a most unusual double cropping system. Weeks claims to have the only walnut orchard in the nation and reports it is highly successful. He finds a demand market for walnut hulls and the walnut meats are also readily salable. He also grows some sod for market in addition to the orchard acreage.

The Latta-Scholes, Inc., sod farm was the site of ground preparation, seeding and maintenance equipment demonstrations. Other demonstrations on both harvesting and cultural practices were held at the J. L. Harris Sod Farm, where Harris alone handles 80 acres; the Meyers Turf Farms which is a major operation of more than 1000 acres including some zoysia and general farming; and the Mell Briggs Turf Farm Featuring harvesting and irrigation.

Membership as announced at the July 17 business meeting is now 300 and demonstrates significant growth for the association. Gerry Brouwer, Brouwer Sods, Ltd., Keswick, Ontario, Canada, has served as membership chairman and introduced his "key man" group of member recruiters. A "key man" is appointed in each state to solicit members on a personal basis and the program has proved highly successful in

From left: new ASPA President, Norm LeGrande of Nebraska, Secretary, Charles Lain of New Jersey, Director, Glenn Rehbein of Minnesota, and Treasurer, Tom Thornton of Illinois.

The Brouwer Sod Harvester operates under the critical eyes of some 200 sod producers. Most major sod equipment manufacturers demonstrated at the field days.

This Princeton model prepares to cut a row of sod at the field demonstrations.

John Latta, Latta-Scholes Sod Farm, directs a tour of his operation.

most areas.

Election of directors at the business meeting and officers by the board included Norman LeGrande, Hendricks Sodding and Landscaping, Lincoln, Neb., as the new president. LeGrande previously served as a member of the Board of Trustees and was the board Liaison Director for the 1975 convention. Vice-president for the upcoming year is Charles Lain of Pine Island Turf Nursery, Inc., Sussex New Jersey. Glenn Rehbein, Circle Pines, Minnesota, will serve as secretary. And Tom Thornton, Thornton's Turf Nursery, Elgin, Illinois, is the newly elected treasurer.

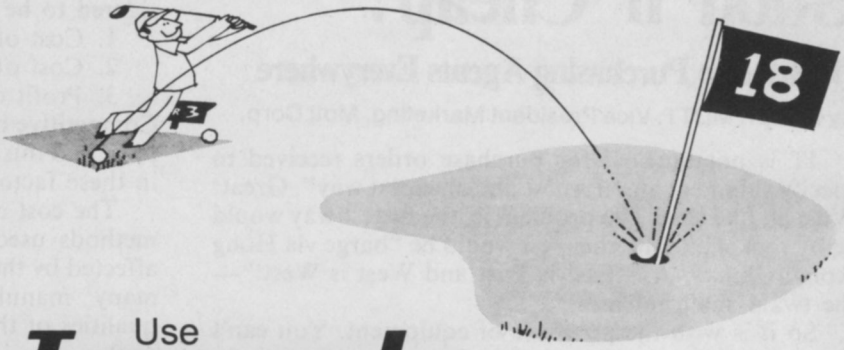
New members of the Board of Trustees include: Glenn Rehbein; John Hope, Manderly Turf Farms, Ltd., North Gower, Ontario, Canada; and Charles Davis, Wharton Turf Farms, Wharton, Texas. Davis is the retiring A.S.P.A. president.

Plans were also announced at the meeting to hold their annual midwinter conference on the gulf side of Florida, February 5-6, 1976. The Sheraton Sand Key Hotel in Clearwater will serve as the meeting headquarters. □

Red Harris explains his one-man operation. Harris grows and harvests nearly 80 acres of sod.

Control your fungi problems

FROM TEE TO GREEN



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Terrazole®

To Fight Cottony Blight, Grease Spot, Damping-Off

Terrazole soil fungicide is your best weapon against Pythium fungi—the cause of grease spot, damping-off and cottony blight in your turf.

With a case of Terrazole in your storage shed, you're set to act fast at the first sign of these turf diseases. Terrazole goes to work quickly and provides effective control of the problems caused by both Pythium and Phytophthora. Repeating at 5 to 10-day intervals provides preventive control. Keep your best weapon against Pythium on hand. Keep your greens green, your golfers happy.

Use

Terraclor®

To Control Brown Patch

Terraclor soil fungicide is the answer to Rhizoctonia control—the fungus that contributes to the formation of Brown Patch in Southern turf grasses.

Terraclor is easy to apply in liquid or dry granular form. Usually one application at the first sign of disease is all it takes.

Be sure you have Terraclor on hand. It's good assurance for healthy fairways and greens.

Write for complete information.

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P. O. Box 991, Little Rock, Arkansas 72203

Please send me more information on Terrazole/Terraclor for a healthy turf.

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Guest Editorial

Good 'n' Cheap!

Dedicted to Purchasing Agents Everywhere

By ELMER MOTT, Vice President Marketing, Mott Corp.

IT is not unusual for purchase orders received to specify shipment via "Fastest and cheapest way". Great! We'd all like that. The problem is, the fastest way would be by rocket and the cheapest would be "barge via Hong Kong, China". As "East is East and West is West" — the twain shall not meet.

So it is with the purchase of equipment. You can't buy a Cadillac for the price of a Chevy, and if you consider price only without regard to quality and performance specifications you might even wind up with a pedal car.

Selling price (purchase price to you) can be considered to be made up of three main factors:

1. Cost of Producing
2. Cost of Marketing
3. Profit on Producing and Marketing.

Competitive bidding exerts pressure to reduce the selling price and this can be done only by achieving a reduction in these factors.

The cost of producing is affected to some extent by methods used and volume produced but it is mostly affected by the product design. As a consequence a good many manufacturers compromise the performance qualities of their products by designing to meet a price goal.

An engineer working for a large equipment manufacturer once commented, "First they tell us to make it good — and we do. Then they come around and start hollering at us that it costs too much — get the cost out of it — make it cheaper. So we go back to work redesigning and the first thing you know, we got it good 'n' cheap!".

The selling price of most equipment reflects a design compromise that has reduced potential performance quality.

The cost of marketing can't really be cut too much. An equipment producer couldn't reach the purchaser without a sales and service organization. At Mott we use various ways to reach the purchaser — advertising, trade shows, mail and direct contact. Whether such direct contact is by dealer, distributor, manufacturers agent or the factory itself, the cost is about the same. Regardless of who or how paid, somebody somewhere somehow has to make contact with the purchaser and present the story of the product to the purchaser — otherwise there would be no sales and no production.

Profit is the one factor that can be held in check by competitive bidding — and it is! However, low price on competitive bidding can be misleading. We have seen bids that were obviously below actual costs. Why? Because it is a well known fact that too often consideration is given to price alone with no consideration being given to future operating and maintenance costs. Knowing this, the selling price will be set to cut or eliminate the profit on the whole product and added back several fold on the price of the parts. As one competitor was heard to comment, "There's one thing we don't give away and that's our parts." A good measure of possible future maintenance costs would be the total listed price of all parts necessary to assemble a complete item from parts. We have never seen this requirement on a bid request. It could be quite revealing. Mott certainly would have no qualms about furnishing such data.

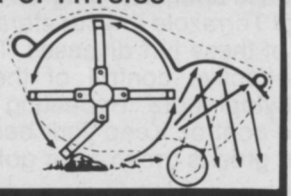
Competitive bidding was developed to protect the public interest from unscrupulous officials who, for personal reasons, made it a practice of purchasing at scandalous prices. Unfortunately, the pendulum has swung too far to the other side. In a good many instances competitive bidding now means purchasing at the lowest price offered regardless of cost. That's right — cost! But,

(continued on page 34)

FIRST CLASS SAFETY

A SIMPLE MATTER OF PHYSICS

LOW IMPACT FORCE ACTION of the MOTT lightweight free swinging flail knives, their vertical mode of operation, the guard action of the roller and the deflecting features of the cutter housing all combine to make the MOTT Hammer Knife flail mower by far the SAFEST of all impact action mowers.



COST SAVING

mott® HAMMER KNIFE®

FIRST IN FLAILS

MOTT CORPORATION

514 Shawmut Ave.
La Grange, Ill. 60525

IT COST LESS TO GO FIRST CLASS WITH MOTT MOWERS

LESS TO PURCHASE
Dollars per pound

LESS TO OPERATE
Greater safety
Greater Versatility
More productivity
Less operator lost time

LESS TO REPAIR
Easy to service
Moderate parts pricing

LESS TO OWN
Longer Life
More acres per mower lifetime
Fewer mowers to buy

MODEL B32
32" 10 H.P.
SELF PROPELLED

Other models from 24" to 19 ft. gangs.

FLAIL MOWERS

Circle 109 on free information card

Aquatic Plant Management Is A National Concern

L. V. Guerra, president of the Hyacinth Control Society, hosted the national group at San Antonio, Texas, July 6-9. Following the meeting some 40 delegates toured Mexico for a 5-day excursion.

The Texas meeting is only the third held outside Florida during the 15-year history of this aquatic weed control group. The 161 who registered numbered fewer than normal for this organization which annually hosts delegates from 20 or more states and several foreign countries and did again this year. However, of the 161, many were attending their initial meeting, and the interest generated among representatives of areas outside the southeast and southern U.S. is a good indicator of growing aquatic weed problems in the nation.

The broader based attendance also bodes well for the future growth of the Society which effects a name change effective January 1, 1976. The new name is "The Aquatic Plant Management Society" which members believe better reflects the thrust of the organization. At the time of the Society's inception, aquatic hyacinths were the major weed problem in southeastern U.S. waters. Since, hydrilla and other aquatic weeds have become as great or almost as much a problem as the hyacinth.

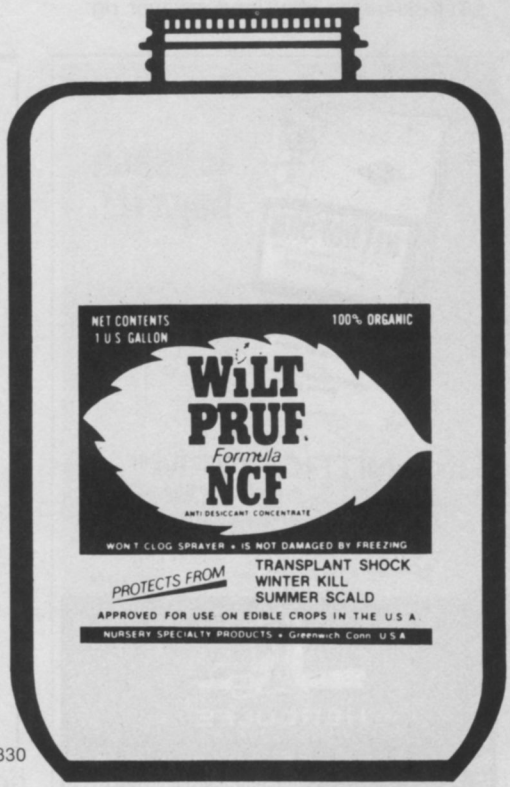
Also, in the beginning, the problem was one of either chemical or mechanical control. Today, there is more attention being given biological control techniques, a major one being use of the white amur. The fish is now being produced on a monosex basis to prevent reproduction primarily in game fish waters. Research is underway in both Florida and at the Fish Farming Experiment Station of the U.S. Fish & Wildlife Service at Stuttgart, Ark.

New president of the Aquatic Plant Management Society, Inc., is Ray A. Spirnock, (left), Central & Southern Florida Flood Control District, Lake Worth, Fla. He assumes the presidency as the Society changes its name from Hyacinth Control Society, effective January 1. On the right is outgoing president, L. V. Guerra, Texas Parks and Wildlife Dept., San Antonio, Texas.

Planting success all year round!

WILT PRUF NCF* reduces first year losses, even if you plant in midsummer . . . or in winter any time the ground is not actually frozen. WILT PRUF NCF Anti-Desiccant extends the safe transplant season for just a few pennies a plant. Over 20 years of outstanding success in top nurseries in every state of the union. Approved for use on growing edible products.

*NCF—Non-Clog, not damaged by freezing.



Available in 12 oz. aerosol, 1 qt., 1 gal., 5 gal., 30 gal. and 50 gal. (U.S.) sizes.

Write for technical information.

NURSERY SPECIALTY PRODUCTS
Division of J. A. Hartman Corp.
410 Greenwich Ave., Greenwich, Conn. 06830
(203) 661-5840

Circle 112 on free information card

GOLF VEHICLE PHOTORAMA *(from page 18)*

CUSHMAN's Turf-Truckster is equipped with an optional power take-off package, PTO extension shaft and sprayer rig.

GEMINI III from Model Tee Car is a propane-fueled car of fiberglass body construction. It weighs 850 pounds with fuel.

POWER-KART from Snow Company will haul up to 500 pounds gross at speeds of up to 20 mph. It's powered by an 8 hp engine and has a variable speed drive. Low bar rear tires are standard. Knobby tires, shown, are also available.

Lebanon bags it!

NITROFORM*
organic nitrogen

The economical nonleaching nitrogen that's great for turf, trees, shrubs, and evergreens, too.

STH74-13R

HERCULES
INCORPORATED

Turf and Horticultural Products, Synthetics Dept.
Wilmington, Delaware 19899

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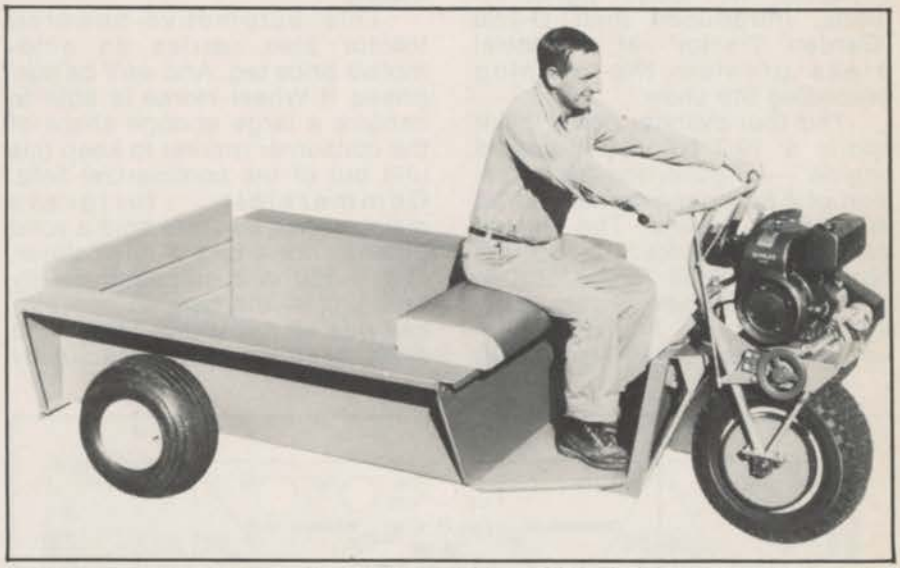
Circle 107 on free information card

GOLFKAR, from Smith Jones, is a gas car featuring foam cushion seats, balloon tires and a rear accessory compartment.

THE MELEX model 102 is an electric car weighing 670 pounds without batteries. It features an automatic seat brake, automotive steering and reverse warning buzzer.

ELECTRIC CADDY from Electric Carrier Corp. has a body made of zinc-grip coated steel and is powered by a traction motor, 36-volt DC.

LAHER's electric MG 470 has seats covered with Duraleather or Naugahyde. Floor and platform are covered with matching outdoor carpeting.



RED RIDER, from Smithco, is a work cart with a 56" deck. It is designed for hauling men and materials.

Kellogg bags it!

NITROFORM*

organic nitrogen

HERCULES INCORPORATED

The nitrogen that can be applied with the least danger of burning. No leaching either. Try it!

Turf and Horticultural Products, Synthetics Dept. Wilmington, Delaware 19899

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PRINCETON

EQUIPMENT FOR THE SOD INDUSTRY

(Ask the Man Who Owns One)

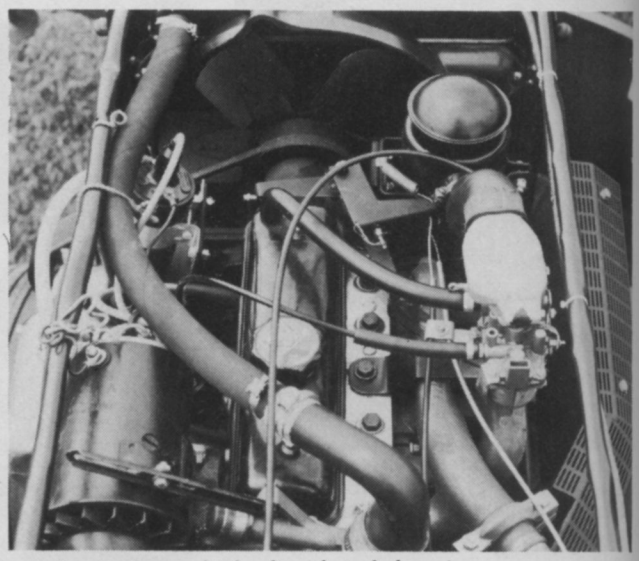
PRINCETON MFG. CO.

2625 Johnstown Road, Columbus, Ohio 43219
Tel. (614) 475-8520

Circle 102 on free information card

New Products

D-250 with 60 in. mid-mounted rotary mower.



Here's the four-cylinder liquid cooled engine.

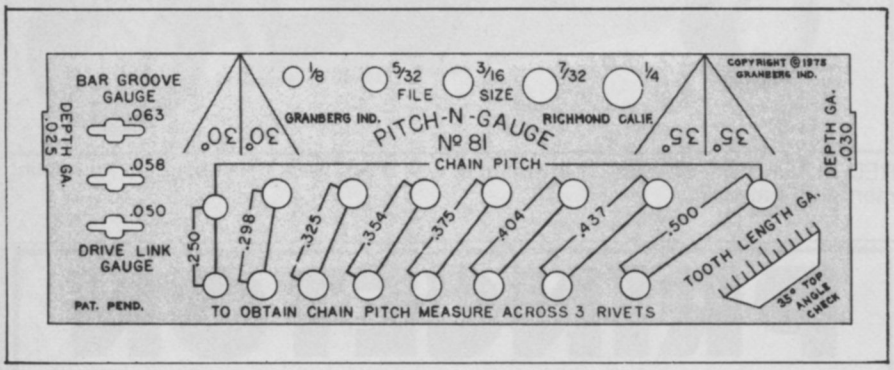
One of the new products featured at the Las Vegas Garden Industry of America Show was a different approach to the under-20 HP tractor. Wheel Horse Products, Inc., South Bend, Indiana, introduced their D-250 "Garden Tractor" at a special press preview the evening preceding the show.

This four-cylinder power plant sports a 19.9 HP, liquid-cooled engine — a governed-back version of a European manufactured automotive engine. The engine was originally rated at 40 HP operating a 5000 RPMs. But in order to skirt new safety standards such as ROPS, Wheel Horse dropped the RPMs to 3000 and rated the engine a conservative 19.9 HP. The results, according to the manufacturer, will be longer engine life from less wear and lower operating temperatures.

This automotive-powered tractor also carries an automotive price tag. And we'll be surprised if Wheel Horse is able to capture a large enough share of the consumer market to keep this unit out of the commercial field. Commercial turfgrass maintenance markets hold a solid potential for a unit of this caliber. The D-250 is a compact, solidly built unit — the type an operator can ride all day without fatigue. It even features a hydraulically dampened, weight adjustable seat.

Other features of the German-crafted unit are triple PTO's, front, mid and rear, an automotive-type disc clutch coupled to a 10-speed transaxle, and twin headlights and taillights. A mid-mounted 60-inch rotary mower and soon-to-be-available commercial-grade snow thrower and tractor cab should make this versatile unit a natural for the industrial and commercial turf markets.

Circle 701 on free information card.

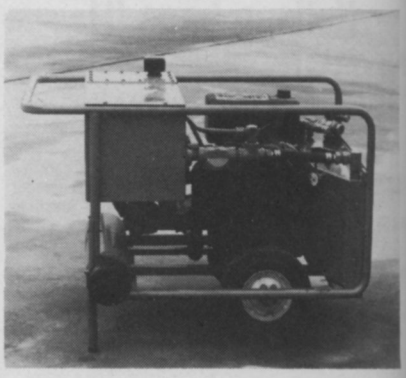


CHECK TOOL: Granberg Industries says this tool measures all you could want to know about any saw chain. There are eight different measurement checks on a single handy tool. Bar groove gauge check, drive link gauge check, eight different chain pitch sizes from one-quarter in. to one-half in., and a tooth length check. There are two different filing angle checks; for 30 degree and 35 degree angles. And there are checks for five file sizes from one-eighth in. to one-quarter in. along with a depth gauge check. The check tool is produced in flexible laminated plastic making calibrations permanent.

Circle 702 on free information card.

POWER PACK: A portable hydraulic power plant featuring an eight HP, one cylinder, four cycle, air cooled engine. Hydraulically powered pruners and chain saws, circular saws and other tools are easy for one man to handle, according to Causco Inc. The company suggests teaming the power/pack with Stanley Hydraulic Tools and not only keep trees and shrubs in better shape, but complete operations in half the normal time.

Circle 703 on the free information card.



BIG JOHN: May Manufacturing Co. claims that this tree transplanter will move up to 10 in. trees with a 7,000 lb. root ball. The unit opens wide for wide-spread trees and shrubs. Blade travel is reported to be 63 in.

Circle 704 on free information card.

QUARTER HORSE: According to Promark Products Corp., this unit has a sturdy four cycle engine available in either 10 HP or 14 HP and a "Torque Sensitive" type of automatic transmission. It will pull mowers, sprayers, rollers and ball pickers; go up steep hills; carry sand, fertilizer and men.

Circle 705 on free information card.

Farm Bureau bags it!

NITROFORM*

organic nitrogen

The economical organic nitrogen . . . when you look at your cost per pound of W.I.N. Try it.

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Wilmington, Delaware 19899

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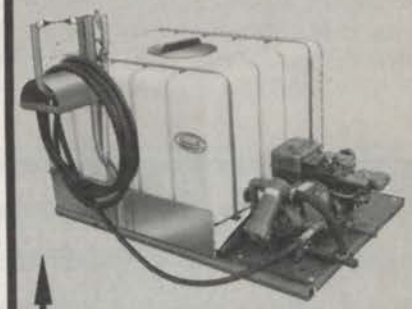
Circle 105 on free information card

WINDER-UPPER: Pac-Craft Products says their E-Z Roller hose winder-upper has a power train capable of exerting 800 lbs. of pulling strength. The unit can be trailer mounted or truck mounted.

Circle 706 on free information card.

THE Broyhill COMPANY
DAKOTA CITY, NEBRASKA, U.S.A.

TURF & INDUSTRIAL SPRAYERS

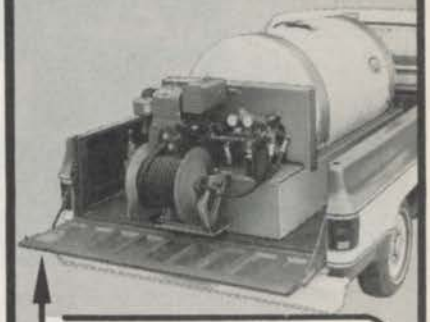


2000 Series Commerical Sprayer

A new compact design with 50 or 100 gal. rectangular polyethylene tank to save space, resist rust. Choose from high or low pressure systems for orchard, turf or pest control.

1950 Series All Purpose Sprayer

The versatile favorite offered in 100, 150 and 200 gal. tank sizes and four job-rated pump systems; features smooth mechanical agitation plus a full line of trailers and accessories.



960 Series Professional Sprayer

High performance equipment to deliver up to 25 GPM at 600 PSI. 200, 300 or 400 gal. capacity with dual stage centrifugal or piston pump systems, trailers and other equipment variations.

THE BROYHILL COMPANY
DAKOTA CITY, NEBRASKA 68731

Circle 110 on free information card

GUEST EDITORIAL *(from page 28)*

you say, "Price and cost are the same!" Sorry, but that statement could not be farther from the truth. Price and cost are NOT the same.

Price is the dollar amount for which a piece of equipment can be purchased. It is only a small part of the cost. Before we get confused, the cost we are now talking about is not the producers cost or the sellers cost but rather the purchasers' cost. It is the TOTAL EXPENSE OF OWNING, OPERATING AND MAINTAINING A PIECE OF EQUIPMENT OVER THE TOTAL PERIOD OF ITS SERVICEABLE LIFE. It should always be expressed as cost per unit of work done. In the case of a mower, total cost is:

1. Price, plus
2. Cost of fuel, plus
3. Cost of operator, plus
4. Cost of repair parts, plus
5. Cost of labor to repair, plus
6. Cost of insurance, plus
7. Cost of interest on investment.

Add these, subtract the resale value at the end of the service life and equate the nest against lifetime productivity. In other words, what will be your total cost — "Dollar per acre mown"?

When dealing with productivity, one must consider:

RELIABILITY — How much production and operator time will be lost through breakdowns? If it is too much it might become necessary to purchase additional mowers and hire more operators. Now watch your costs soar!

VERSATILITY — Is the mower restricted in its performance capabilities or can it be used on several different applications? Can it mow fine lawn areas? Shred high grass and weeds? Mulch leaves? Renovate — thin, dethatch or scalp turf? Can it mow in rough trashy areas as well as in clean smooth areas? Can it go out and mow in all conditions, wet or dry, or will production time be lost waiting for the dew to evaporate? Is it relatively safe to use when people are around or should the area be cleared first?

CAPACITY — or mowing rate, acres/hour. The Mott Interstater, for instance, carrying (3) cutter units and cutting practically a 19 foot swath has the capacity of (3) single mower units on (3) tractors with (3) operators. Saving — (2) tractors and (2) operators! Higher priced wide swath mowing equipment can and will, where practical to use, pay for itself in cost saving many times over.

DURABILITY — Will the mower be worn out in 5 to 7 years or will it have a serviceable life of 10, 15 or even 20 years? Longevity not only has a great impact on total lifetime productivity but also a direct impact on capital cost. Take for example a $700 mower with a 7 year life expectancy versus a $1000 mower with a 15 year life expectancy. For $300 more (almost a 50% higher bid price) an extra 8 years of service life can be purchased — at a capital cost of less than $40 per year for the last 8 years!

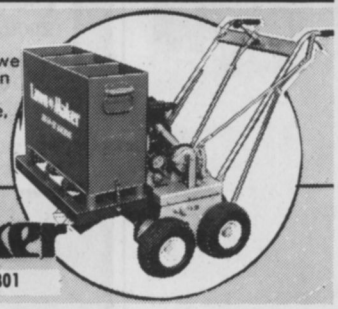
John Ruskin said it, "There is hardly anything in the world that some man cannot make a little worse and sell a little cheaper, and the people who consider price only are this man's lawful prey".

Lawful perhaps, but not necessarily to the taxpayers or shareholders best interst. □

THIS POWER MACHINE AERATES AND PRECISION-DISPENSES THREE TURF MATERIALS SIMULTANEOUSLY.

seed, fertilizer, controls, etc.

If you service lawns, or plan to, we have a complete "automated lawn service" management, training and marketing program available, free with your LAWN MAKER combine. This machine is also excellent for Greens.



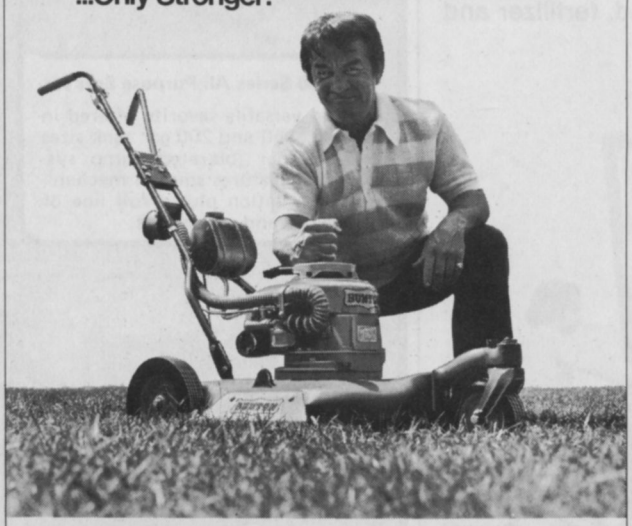
Lawn Maker

25 Jefry Lane, Hicksville, N.Y. 11801

Circle 153 on free information card

BUILT LIKE A ROCK

...Only Stronger!



"Bunton lawn-turf equipment is built to take a beatin'... it's tough! Like this edger! Edger guards of heavy gauge steel, interchangeable and replaceable, prevent blade from marking or chipping and direct grass away from what it is edging." So listen to Rocky Graziano...send for more information today...with Bunton, you can't lose! Available from 8-inch to 52-inch cut.

BUNTON

BUNTON CO. 4303 Poplar Level Road, Louisville, Kentucky 40213, U.S.A.
Phone 502/459-3810 Telex 204-340

Circle 131 on free information card

Perform a death-defying act.

Exercise regularly.

Give Heart Fund
American Heart Association

DUMP BED: Topeka Metal Specialties claims this "Strong Boy" hydraulic dump bed can hoist three tons and haul 52 bushels (65 cu. ft.). Optional side boards increase capacity to 87 bushels. This reinforced unit weighs 700 lbs. The unit features a twin cylinder hydraulic lift, 14 gauge steel body, and double-hinged tail gate. It comes equipped with 9 x 12 in. sliding gate and speader chains.

Circle 708 on free information card.

PUMP: Stanley Hydraulic Tools introduces this lightweight sump pump, six in. in diameter. The self-priming pump is 16 in. high, weighs 20 lbs., and is capable of delivering more than 300 gpm with a 10 ft. head, according to the manufacturer.

Circle 707 on free information card.

PENETRANT: This specialized liquid formulation hastens the downward movement of water, promotes passage of water through thatch, heavily compacted soil, and subsurface layers. Motomco, Inc., product manufacturer, claims that the increased water penetration aids the decomposition of thatch by encouraging microbiological activity which reduces the need for mechanical aerification. According to the manufacturer, it also improves root absorption of systemics by carrying solutions down to the roots faster.

Circle 709 on free information card.

WHOLE TREE CHIPPER: Strong Manufacturing Co., says this unit will take full length trees up to 17 in. in diameter and reduce them to uniform chips. The chipper is 21 ft. long, 8 ft. wide and weighs 15,600 lbs. Powered by a small diesel engine, it can produce approx. 25 tons of chips per hour.

Circle 710 on free information card.

Robison's Lawn and Golf bags it!

NITROFORM*
organic nitrogen

The odorless, dust-free, pathogen-free organic nitrogen. Applying Nitroform doesn't interfere with normal use of turf areas.

STH 74-20R

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Wilmington, Delaware 19899

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Circle 104 on free information card

FYLKING
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FYLKING

Remember the name because you're going to hear a lot about it. 0217® Brand Fylking Kentucky bluegrass lawn is something special. It forms a dense, thick turf, more disease and drought resistant. Greens up earlier, stays greener longer. Fylking can be cut low as ¾ inch, even ½ inch for home putting greens. Proven over many years of international certified testing. Ask your seed distributor for Fylking.

0217 BRAND

FYLKING U.S. Plant Patent 2887
KENTUCKY BLUEGRASS
Fylking selected as the World's Fair official grass.

Another fine product of Jacklin Seed Company

Circle 115 on free information card

People on the Move

Thomas E. Martin, named business manager for Wisconsin and Minnesota area by the Outdoor Power Equipment Division, J I Case Co. **Ken W. Gangwer,** former marketing manager of Davis, an operating division of J I Case, is returning to Davis as general manager of marketing.

* * *

Richard G. Phillips, named manager field sales of the Kohler Co. **Michael W. Littell** appointed area manager reporting to Phillips. Kohler also expanded the market planning staff in its Engine Div. and appointed **Douglas G. S. Cook** to head the staff as manager — market planning. Three companion assignments were also named to the marketing staff — **John T. McCarrier** and **Linda J. Sprecher** as market analysts and **D. Allan Eisentraut** as coordinator — customer services.

* * *

Victor M. Cushing, appointed vice president, marketing for the Jacobsen Manufacturing Co. Prior to joining the Racine-based firm, Cushing had served as manager, food preparation products, Housewares Division of General Electric.

* * *

Dr. John P. Sleesman fills the field research representative position in Ohio and Michigan for the Chemagro Co. Sleesman succeeds **Dr. Robert A. Fisher,** who is retiring.

* * *

Thomas J. Wallisch, named manager of marketing research and forecasting for the Toro Co. Wallisch comes to the Toro Co. from the Gates Rubber Co., where he was marketing and research manager for the past two years.

* * *

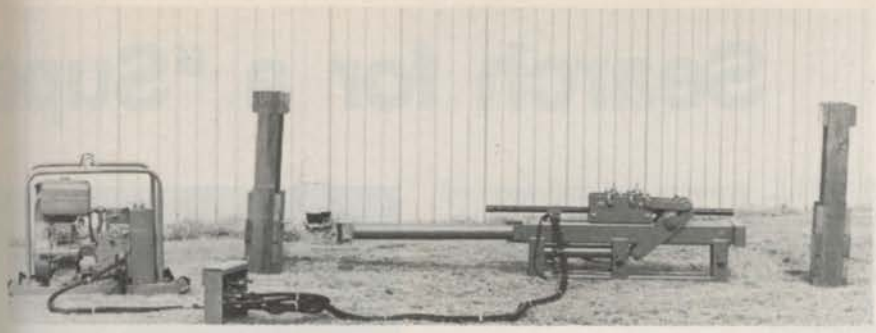
William M. Fluegel, transferred within Elanco Products Co. to manager, market planning responsible for Treflan.

* * *

Joseph F. Ragusa, promoted to branch manager of the Thompson-Hayward distribution center in St. Gabriel, Louisiana. **Beverly Bankston,** also promoted to export manager. In other company moves, **Dr. Robert H. Sparnicht,** named assistant director, field research and development.

* * *

Alfred J. Restaino, named director of corporate research and **Paul Becher,** director of specialty chemicals research for ICI United States, Inc. **Girard T. Smith,** also appointed vice president for administration. Smith will be responsible for the company's administrative services, distribution services, management information services and purchasing and resale departments. ICI also named **Erling D. Schmidt** and **David W. Ryerson** managers of the project team responsible for building and opening the company's new $70 million paraquat herbicide plant at Bayport, Tex.



PUSHER: Ditch Witch introduces this new soil compression type horizontal tunneling machine with a companion portable hydraulic power unit — the 312 Pusher and Power Pac 12. Ditch Witch claims the Pusher is capable of forming tunnels from 3-12 in. in diameter under roadways and other obstructions where trenching or plowing cannot be done. Its double acting drive rod cylinders provide up to 35,000 lbs. of rod force at its recommended operating pressure of 2,000 psi. When used with the optional Power Pac hydraulic power unit, it does not tie up other expensive hydraulic sources. Power Pac 12 utilizes a 12 HP air-cooled gasoline industrial engine to provide hydraulic power up to 2,000 psi for use with the Pusher or a variety of other hydraulic tools. It is housed in a compact, sturdy steel tube frame on skid mounts for ease of transport. Hydraulic connectors are "quick coupler" type for ease and speed in setup or dismantling.

Circle 711 on free information card.

IRRIGATION HOSE: Acme-Hamilton Manufacturing Corp., designed the Heliflex L for drip-type application. It is light in weight and rated for moderate pressures, according to the manufacturer. It is available in standard 300 ft. lengths and in sizes up to 6 in. ID. Black Crown hose is designed for use as a flexible supply for travelling irrigation systems. It is black, longitudinally ribbed PVC blended hose reinforced with high tensile polyester yarns. Manufacturer says the reinforcement gives the hose extraordinary end pull strength that allows it to be dragged constantly while under pressure and full of water. Black Crown is rated at 150 psi.

Circle 712 on free information card.

Bandini bags it!

NITROFORM®

organic nitrogen

The economical nitrogen that feeds for months because it has different release rates . . . like time-release cold capsules.

HERCULES INCORPORATED

Turf and Horticultural Products, Synthetics Dept. Wilmington, Delaware 19899

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Circle 103 on free information card

TRACTOR: A new 40 HP Model 5040 manufactured by Allis-Chalmers Corp. is designed as an economical tractor with enough power and versatility to perform the toughest field job successfully. A dual range transmission is standard.

Circle 713 on free information card.

Heals wounds; prevents decay

Cabot's Tree Healing Paint is a carefully prepared bituminous paint for protecting live wood and preventing decay. Leading arborists and foresters have been using it for almost half a century. Here are the reasons why:

- **ideal for trees, shrubbery, etc.; seals, heals wounds, cuts, broken limbs, pruning abrasions.**
- **stimulates growth of new bark**
- **apply with brush or spray; produces a black, tough, elastic, quick-drying coating.**
- **excludes moisture; stops rot; prevents evaporation of sap**
- **may be used in any season**

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Samuel Cabot Inc.
Dept. 958, One Union St.
Boston, Mass. 02108

Ship _____ pints (12 per cost) @ **95¢** each

Ship _____ gallons (4 per case) @ **$5.40**

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IF ALL GOES WELL, growers and managers of turf and ornamental plantings soon will have a highly effective new weapon for use against the troublesome and costly soil-borne diseases — cottony blight, damping off and the root rots and stem rots caused by Pythium and Phytophthora.

By late 1975, Dow Chemical Company hopes to have its new systemic fungicide Nurelle (common name is "pyroxychlor") registered for use on ornamental crops in greenhouses, outdoor nurseries, and in landscape ornamental plantings. Registration for use on turf is anticipated in 1976. And registration for foliar applications may come in 1976 or shortly after.

In dozens of tests, Nurelle consistently has outperformed currently available fungicides being used to combat Pythium and Phytophthora (the water molds) on such crops as turfgrass, ornamental foliage plants, bedding plants, azaleas, and rhododendrons.

In addition to being more effective against the water molds than any currently available fungicide, or any other experimental compound now being tested, the product has these additional advantages:

1. Used as a foliage spray, it is translocated downward to the roots of plants, instead of upward like most systemic compounds.

2. In proper concentrations, applied correctly, it gives long-lasting control of Pythium and Phytophthora, eliminating the need for continuous treatments at short intervals.

3. Used correctly, it is nonphytotoxic to plants.

Dr. Herbert Cole, plant pathologist at Penn State University, has been working with Nurelle for two years now for the control of Pythium blight on golf course grasses. He has been investigating different dosages, the need for drenching or watering in the chemical, the effect of soil type on disease control and other application techniques.

"Nurelle's unique benefit on golf course grasses is its long-lasting effect," says Cole. "Instead of giving Pythium blight control for three to four days like the standard chemicals now available, Nurelle controls the disease for three to four weeks." Pythium blight, also known as grease spot or cottony blight, varies in degree from a curiosity to a serious pest. It's worse in hot, humid weather. "When you've got it, you've really got it," Cole adds. Research results so far indicate that for best Pythium blight control on golf course grasses, the fungicide should be watered in thoroughly after application.

Many researchers currently are working with the product for the control of Pythium and Phytophthora on ornamentals. Dr. Harry Hoitink, Department of Plant Pathology, Ohio State University, has been experimenting with the chemical since 1972.

In many tests, the fungicide has been highly effective both as a drench and as a foliar spray. Close-up views show Phytophthora and Pythium symptoms on dieffenbachia and ivy.

ungicide

"We've used Nurelle as a drench to control Phytophthora on azaleas and rhododendrons," says Hoitink. "It also works as a foliar spray against Phytophthora on rhododendrons, azaleas, and pieris — three of the most Phytophthora-susceptible plants known to man.

We're now looking at how Nurelle is translocated through the plant to the roots," Hoitink adds. "We can detect the compound in the roots five days after application as a foliar spray and we can still detect it in the roots a month after application.

"A second foliar spray about a month after the first application increases the concentration in the roots. We're working on chemical concentrations that give good disease control. Sprays of 600 parts per million are helpful, but sprays of 1,200 parts per million are completely effective when applied more than once."

At Apopka, Florida, the "Foliage Plant Capital Of The World," Dr. Jim Knauss, associate professor of plant pathology, has done extensive testing with Nurelle on many species of foliage plants. "As a group, Phytophthora and Pythium molds are probably the worst disease problems of the ornamental plant industry," Knauss explains. "We already had our disease-control tests underway when we learned about Nurelle. Since then, we have tested the compound extensively both as a drench and as a foliar spray. It has been more effective than any presently available fungicide or any other experimental compound we've tested.

"One of the problems in the beginning was that researchers didn't know how to properly test Nurelle," Knauss believes. "The chemical should be tested on plants in realistic situations at adequate concentrations — not on artificially damaged plants inoculated with unrealistically high levels of disease."

Knauss' work indicates that certain criteria are important for good results with the chemical applications:

1. When the fungicide is used as a drench, foliage plants should be in an active state of growth so they will absorb enough of the chemical.

2. When it is used as a foliar spray, plants also must have actively growing leaves. Foliage sprays should contain about three times as much chemical as drenches. The faster the plants are growing, the more chemical is necessary for good disease control.

Knauss says you can't spray the foliage of plants with Nurelle and then take cuttings and expect to get disease control in the new plants that grow from the cuttings. The product moves out of the leaves and to the roots too fast. He's experimenting now, though, with ways that the chemical might be held in the leaves longer. For instance, he thinks a drench might be used to saturate the roots, followed by a foliar spray. He has used the product this way to control the foliar form of Phytophthora in petunias.

In Knauss' tests, the product has rarely been exceeded in performance. It has given excellent control of Phytophthora without phytotoxicity in repeated tests on dieffenbachia, peperomia, petunia, and Christmas cactus and against Pythium on Christmas cactus. Knauss is now experimenting with combination treatments of Nurelle and other disease control compounds.

Growers of foliage plants in the Apopka area have watched Knauss' work and have cooperated in many instances. They are anxious to have the product approved for use in their commercial operations. Herman Englemann, owner of Englemann's Nursery, Apopka, is a good example. "I have seen dieffenbachia plants treated with Nurelle grow well in fully disease infested soil," Englemann says. "We used it on ivy and it was just fantastic. The minute we can use the product commercially, we'll use it on everything as a preventive.

"I'll use the chemical first as a drench," Englemann says. "It should be most effective this way. Then later on we'll probably also use it as a foliar spray. I hope we can mix it with other chemicals, too."

Will Webb, production manager for Johns, Inc., Apopka, is also excited about the fungicide. "We like the potential for using it as a foliar spray," Webb explains. "Foliar sprays would be much cheaper, quicker, and simpler. We would use the chemical as a preventive on all plants that are susceptible to Pythium and Phytophthora."

Dow hopes Nurelle also will prove effective against diseases of many other plants. Research is currently underway with such additional crops as blueberries and Christmas trees, both of which suffer severely at times from root rot diseases.

John Lillich, product manager for Dow, says that if all goes well, the company plans to first launch Nurelle in a limited way in Florida and California. "We're set up to manufacture only a modest amount of the chemical with present facilities," Lillich says, "so supplies will be very limited until about mid-1976." Dow is building a new facility to produce pyroxychlor, however, and should have increased supplies by late 1976. □

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EDITORIAL *(from page 6)*

tion committee is also exploring legislative avenues and considering means of bringing their thinking and programs to the consumer.

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Trimmings

John Davey Tree Care Library-Museum will open to the public after formal dedication ceremonies planned for mid-1976. The home of one of the tree-care pioneers John Davey in Kent, Ohio has been acquired by the Davey Foundation and will become a library and museum dedicated to the tree-care industry. Davey, who resided in the home from 1904 until his death in 1923, was the first to assemble tree sciences of the time and build them into what he called "tree surgery." With his first book, "THE TREE DOCTOR" published in 1901, Davey sold the country the new idea that shade trees — wherever they were — could and should be saved and kept healthy by scientific processes. The success of the book eventually led to the founding of The Davey Tree Expert Company by his son, Martin L. Davey.

Joseph T. Myers, Davey president, said that the proposed library-museum will be a long over-due tribute to the tree-care industry. "It will commemorate the beginning of tree care as a vital industry and provide an authoritative reference library for writers, researchers and other interested individuals," he said.

Myers expressed hope that all companies and organizations associated with tree care and its development will contribute appropriate historical documents, photographs and other memorabilia to make the museum truly representative of an entire industry.

Kershaw Manufacturing Co., just released a 12-minute film on its right-of-way maintaining and land-clearing machine, the Klearway. The film shows the huge cutting and clearing machine in action in various applications around the country. It also contains the latest operating cost figures on the Klearway.

Film highlights include before and after shots, aerial shots and "instant replays" of the Klearway cutting down eight inch trees at ground level. The machine is even shown being intentionally "ditched" in a creek to emphasize its ability to pull itself out using a self-contained winch.

Arrangements to see the color/sound film may be made through Kershaw Manufacturing Co., 2205 West Fairview Ave., Montgomery, Alabama 36108.

"Meet the Gypsy Moth," a new publication available free from Northwestern Forest Experiment Station, can make you more fully informed about the gypsy moth. The booklet shows the life history of the gypsy moth from egg mass to adult in full-color illustrations. It is designed as an identification guide. Free copies are available from: Information Services, Northeastern Forest Experiment Station, 6816 Market St., Upper Darby, PA 19082.

NASA has become interested in the water hyacinth because of its unique ability to clean up waste water. C. B. Wolverton, a NASA biochemist, has been keeping tabs on water hyacinths. He says the plant removes water pollutants by absorbing them through its roots. Among the chemicals it briskly extracts are such insidious killers as mercury, lead, strontium 90 and some complex organic chemicals scientists link to cancer. Wolverton reports that the plants have such a voracious appetite for chemicals that he has measured toxic metals 10,000 times more concentrated in water hyacinths than in their surrounding water.

L. V. Guerra, past president of Hyacinth Control Society, was quoted in the Wall Street Journal as saying, "Theoretically the use of hyacinths to clean up pollution sounds great, but on a practical basis it isn't such a hot idea."

Donald Lee, head of Louisiana's water hyacinth eradication program, said that in 1972, some 442,000 acres of Louisiana water were choked with water hyacinths. More than $3 million per year has been spent to clear them. But now they infest 1.2 million acres. "In no way can you keep up with water hyacinths," he says. "You can't keep up with reproduction."

At any rate, Wolverton intends to continue his project hoping not only to solve major water pollution problems but also to recover some of these heavy metals once absorbed by the plant.

New officers and directors of the American Association of Nurserymen are shown here standing left to right: Director of Region II, John B. Wight, Wight Nurseries, Inc., Cairo, GA; Director of Region I, Henry A. Weller, Congdon & Weller Wholesale Nursery, Inc., No. Collins, NY; Director of Region IV, Hugh Steavenson, Forest Keeling Nursery, Elsberry, MO; seated left to right: Vice President and Director of Region V, L. J. Hilscher, Hilscher Nursery and Garden Center, Ft. Worth, TX; President, Palmer W. Bigelow, Jr., Bigelow Nurseries, Inc., Northboro, MA; Director at Large, Louis Hillenmeyer, Jr., Hillenmeyer Nurseries, Lexington, KY; Director of Region VI, Itsuo Uenaka, Cupertino Nursery, Inc., Cupertino, CA; not pictured is Treasurer, Ernest A. Tosovsky, Home Nursery Greenhouses, Inc., Edwardsville, IL.

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